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REPORT**

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**(5.) OSI/USSR: Analysis of Space Reactor
Debris****CIA OPS CTR**

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Analysis of debris from the Soviet satellite-borne nuclear reactor that disintegrated in the atmosphere over northern Canada on 24 January indicates that the Soviets are somewhat ahead of the US in the use of space reactors. The apparent sophistication of the reactor suggests that the Soviets have a significant program to develop such reactors for military uses in space and implies that they intend to continue using such devices.

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The reactor fuel

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is apparently a highly enriched uranium metal alloy. The use of this material and some evident aspects of the reactor design demonstrate that the Soviets have advanced significantly beyond their early designs for space power reactors. The Romashka reactor of the mid-1960s and the Topaz reactors of the early 1970s used more conventional fuels.

The disintegrated reactor was developed by the Soviet Navy for its radar ocean reconnaissance satellite and was probably first tested in the early 1970s. These years of experience with a sophisticated space reactor, added to the previous experience with less sophisticated devices, account for the Soviets' lead in such technology.

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